

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PPD 50383/WO	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/GB99/04345	International filing date (day/month/year) 22/12/1999	Priority date (day/month/year) 01/02/1999
International Patent Classification (IPC) or national classification and IPC A01N25/30		
Applicant ZENECA Limited et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.


2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 1 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 14/06/2000	Date of completion of this report 05.01.2001
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized officer Fort, M Telephone No. +31 70 340 4123



INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB99/04345

I. Basis of the report

1. This report has been drawn on the basis of *(substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments (Rules 70.16 and 70.17).):*

Description, pages:

1-12 as originally filed

Claims, No.:

1-16,24-43 as originally filed

17-23 as received on 23/11/2000 with letter of 23/11/2000

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GB99/04345

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-19, 26-35 and 37
	No:	Claims	20-25, 36, 38-43
Inventive step (IS)	Yes:	Claims	1-19, 26-35 and 37
	No:	Claims	20-25, 36, 38-43
Industrial applicability (IA)	Yes:	Claims	1-43
	No:	Claims	

2. Citations and explanations
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

In the following discussion, reference is made to the following documents:

D1: Derwent Abstract AN 1997-347342 (& JP 09143016)

D3: US 5 372 637

As already explained in the written opinion, in the following discussion with respect to novelty, the indication of use "inducer of an inducible promoter" is not considered as a technical feature which differentiates the claimed compositions from the compositions of the prior art (cf. Guidelines III 4.8).

D1 describes compositions comprising an ethylene oxide adduct of a higher alcohol and a liquid support such as water, methyl alcohol, ethyl alcohol, isopropyl alcohol, acetone or mixtures thereof. In an example, a composition comprising polyoxyethylene oleyl ether ethylene oxide (15 mol.) in acetone-water liquid support has been prepared. Therefore the subject-matter of claims 36 and 38-43 lacks novelty in view of D1.

D3 describes aqueous compositions comprising 4 to 20% of an active ingredient i.e. vegetable-derived compound, 2 to 30% of a lowmolecular weight alcohol i.e. ethanol or propan-2-ol, trisiloxane polyethoxylate e.g. Silwet 77 (see D3, column 3-column 8). The new formulation of claim 20 "an agricultural formulation consisting essentially of ..." does not exclude the presence of further ingredients in small amounts. D3 is therefore novelty destroying for the subject-matter of claims 20-25.

The remaining subject-matter (claims 1-19, 26-35 and 37) can be considered as both novel and inventive since the prior art does not disclose or even suggest the use of a formulation containing a volatile chemical inducer and a polyethoxylated C10-C20 alcohol or a trisiloxane polyethoxylate for controlling expression of a target gene in a plant.

Re Item VIII

Certain observations on the international application

The vague and imprecise statement in the description on page 12, I.17-18 implies that the subject-matter for which protection is sought may be different to that defined by the claims, thereby resulting in lack of clarity (Article 6 PCT) when used to interpret them (see also the PCT Guidelines, III-4.3a).

17. A method according to claim 16 wherein the organism is a plant.
18. A method of controlling expression of a target gene in a plant comprising transforming the plant with a chemically-inducible plant gene expression cassette comprising a first promoter operatively linked to a regulator sequence which encodes a regulator protein, and an inducible promoter operatively linked to the target gene, the inducible promoter being activated by the regulator protein in the presence of a formulation as defined in any one of claims 1 to 15, the method comprising applying to the plant a formulation as defined in any one of claims 1 to 15, whereby application of the inducing formulation causes expression of the target gene.
19. A method according to any one of claims 16 to 18 wherein the inducible promoter is the *alcA* inducible promoter sequence and the regulator sequence encodes the *alcR* regulator protein.
20. An agricultural formulation comprising the components:
(a) a volatile chemical inducer of an inducible promoter;
(b) a trisiloxane polyethoxylate; and
(c) a diluent.
21. A formulation according to claim 20 wherein component (b) is a hydrogen or a methyl end-capped trisiloxane polyethoxylate.
22. A formulation according to claim 21 wherein component (b) is a methyl end-capped trisiloxane polyethoxylate.
23. A formulation according to claim 21 or 22 wherein component (b) is a methyl end-capped trisiloxane polyethoxylate wherein the mean molar ethylene oxide content is between 4 and 12 per molecule.